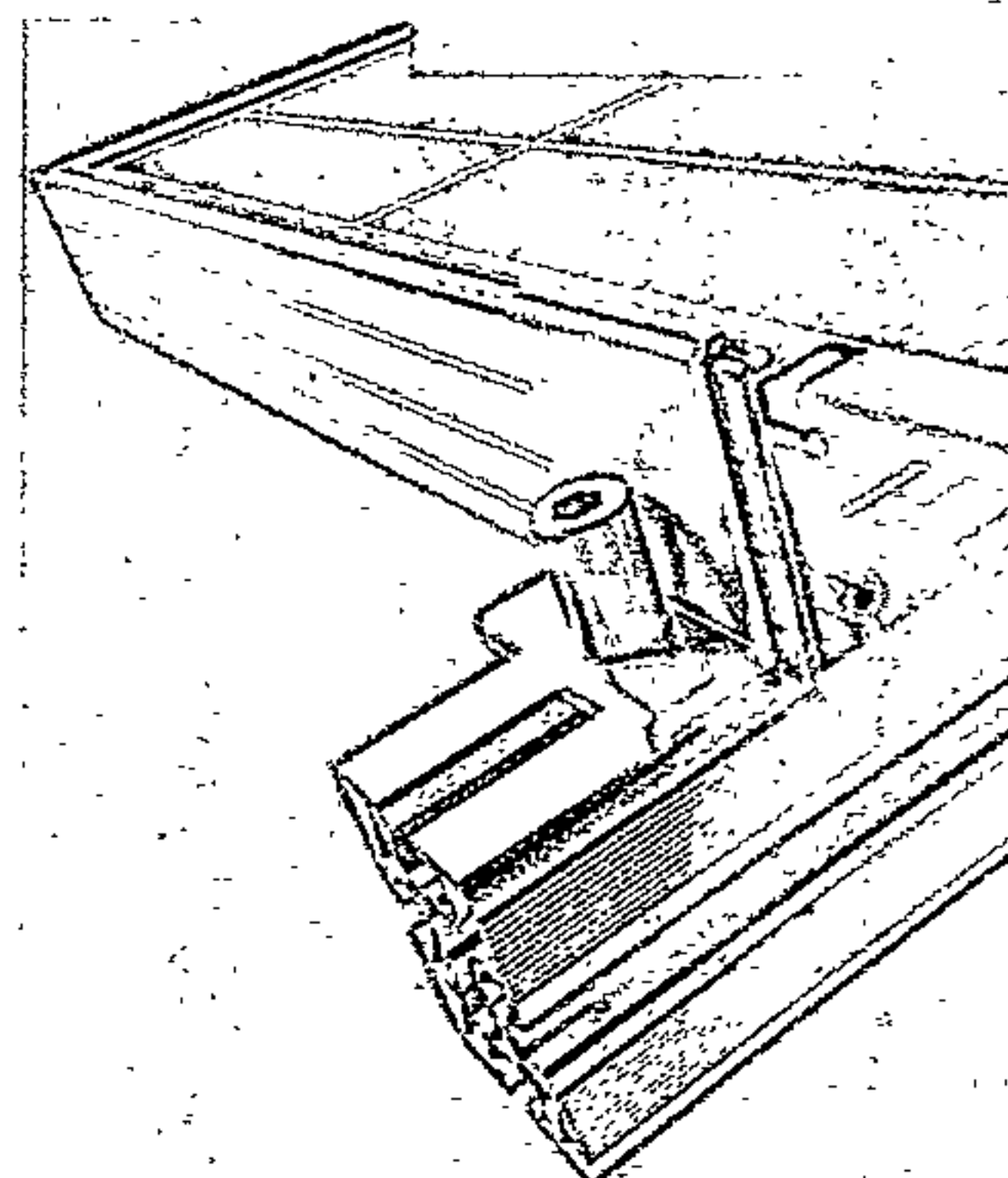
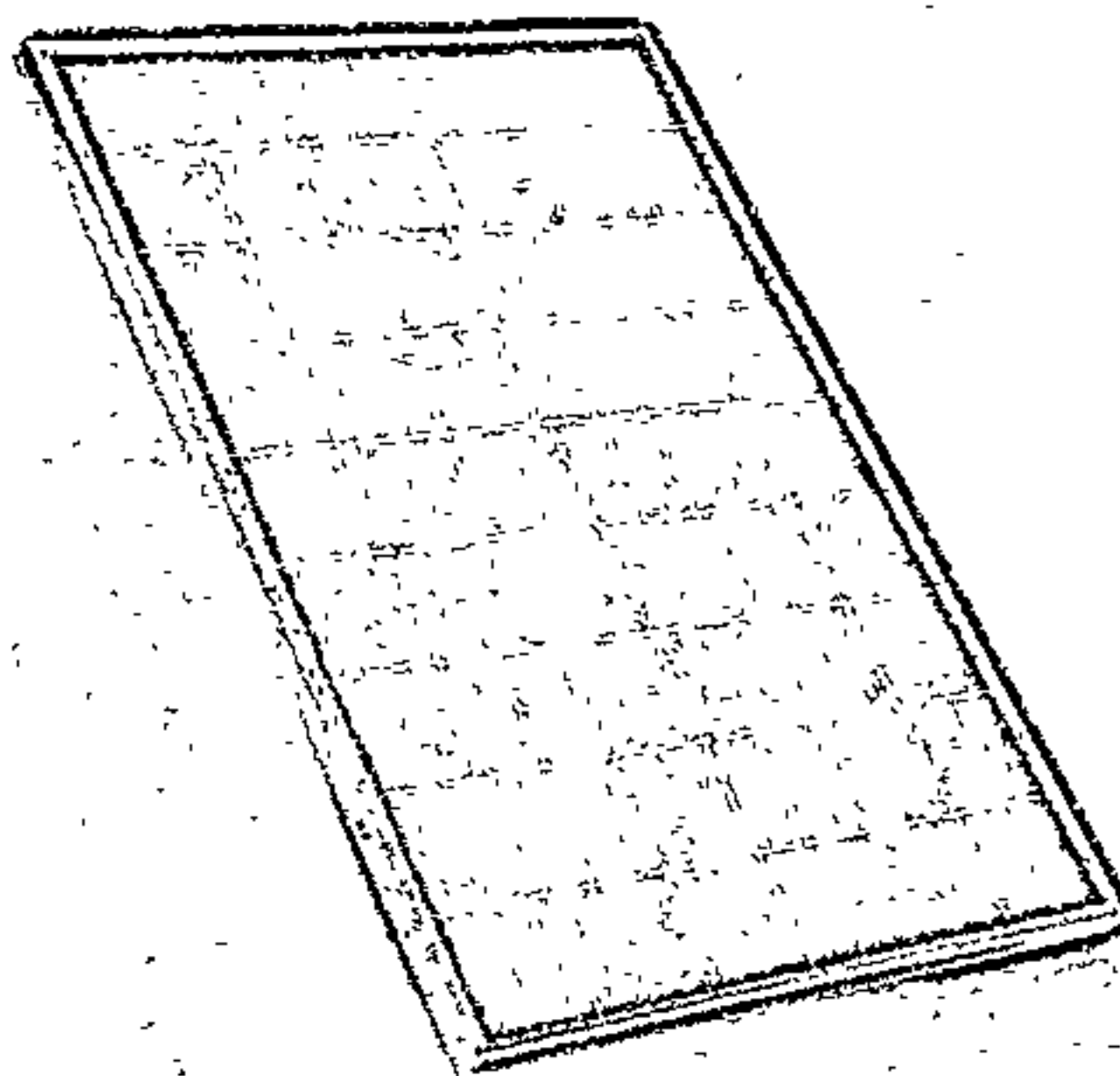
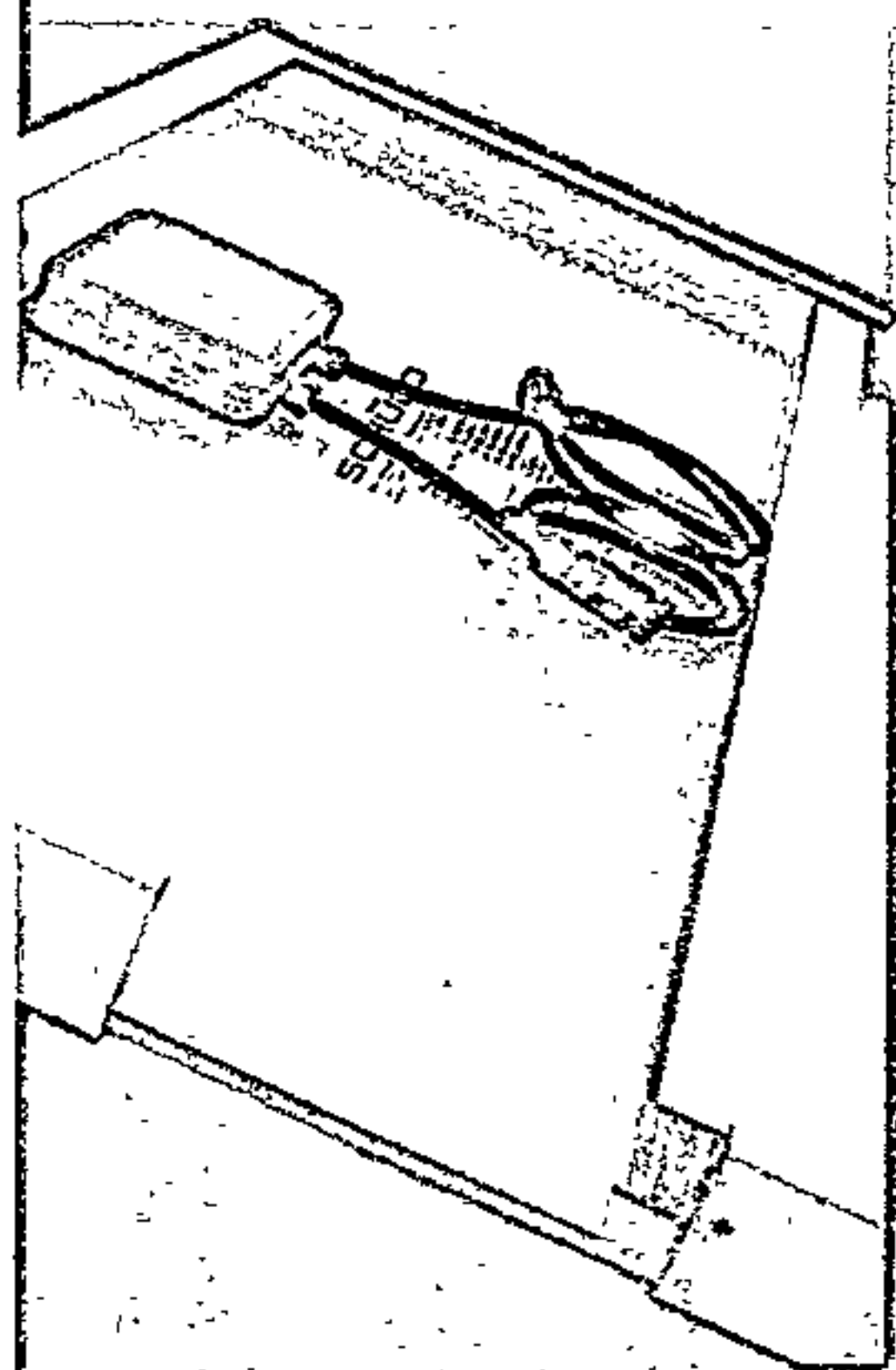


# Schüco MPE modules in the PS 05 series

Technical information on the output categories 200 to 215 W<sub>p</sub>



## PV module of the highest quality

Schüco MPE modules in the PS-05 series are distinguished by polycrystalline solar cells with high cell efficiency. The efficiency is further enhanced by three busbars, thereby achieving maximum outputs. Due to the positive output tolerance of  $\pm 5/0\%$ , the rated output is always achieved or exceeded.

## Comprehensive guarantee

The modules have an extended 5-year product guarantee. In fact, the guarantee on output values is considerably longer – after 25 years, the Schüco MPE module in the PS-05 series will still provide at least 80% of its rated output.\* Every module is manufactured according to current quality standards.

\* In accordance with the Schüco International WKG conditions of warranty

## Optimised labelling

Prior to delivery, every module is subjected to a visual and electrical quality test. The output data measured is indicated on the back of the module and on the packaging. Homogeneous module fields can be grouped together quickly and effectively during installation.

## High level of operational reliability

Schüco MPE modules in the PS-05 series have a connecting box on the reverse of the module that is fitted with three bypass diode bridges. This prevents individual solar cells from overheating (hot-spot effect). This ensures the reliable operation of the whole system from module fields to inverters. The connecting box, solar cables and plug systems

are of the highest quality and are also certified as individual components.

## New retaining clip concept

The innovative retaining clip groove in the frame ensures an optimised interlock, thereby reducing the load on the retaining clip.

## Attractive and robust

The module frame made from torsion-proof, anodised aluminium meets the highest standards in terms of stability and corrosion resistance. Two cross struts in the frame on the reverse increase the load-bearing capacity of the module. Schüco MPE modules in the PS-05 series can be installed with components from the Schüco PV light mounting system.

# SCHÜCO

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## Schüco MPE modules in the PS 05 series\*

| Performance data                                                                  | MPE 200 PS 05       | MPE 205 PS 05       | MPE 210 PS 05       | MPE 215 PS 05       |
|-----------------------------------------------------------------------------------|---------------------|---------------------|---------------------|---------------------|
| Performance data (except NOCT) under Standard Test Conditions (STC) <sup>1)</sup> |                     |                     |                     |                     |
| Rated output ( $P_{MPP}$ )                                                        | 200 $W_p$           | 205 $W_p$           | 210 $W_p$           | 215 $W_p$           |
| Output tolerance ( $\Delta P_{MPP}$ )                                             | +5%/-0%             | +5%/-0%             | +5%/-0%             | +5%/-0%             |
| Minimum output ( $P_{MPP min}$ )                                                  | 200 $W_p$           | 205 $W_p$           | 210 $W_p$           | 215 $W_p$           |
| Rated voltage ( $U_{MPP}$ )                                                       | 26.80 V             | 26.90 V             | 27.00 V             | 27.10 V             |
| Rated current ( $I_{MPP}$ )                                                       | 7.43 A              | 7.59 A              | 7.75 A              | 7.91 A              |
| Open-circuit voltage ( $U_{oc}$ )                                                 | 32.70 V             | 32.80 V             | 32.90 V             | 33.00 V             |
| Short circuit current ( $I_{sc}$ )                                                | 8.22 A              | 8.40 A              | 8.52 A              | 8.65 A              |
| Cell efficiency                                                                   | 14.9 %              | 15.3 %              | 15.7 %              | 16.0 %              |
| Module efficiency                                                                 | 13.4 %              | 13.7 %              | 14.1 %              | 14.4 %              |
| Temperature coefficient $\alpha$ ( $P_{MPP}$ )                                    | -0.4 %/°C           | -0.4 %/°C           | -0.4 %/°C           | -0.4 %/°C           |
| Temperature coefficient $\beta$ ( $I_{sc}$ )                                      | +0.04 %/°C          | +0.04 %/°C          | +0.04 %/°C          | +0.04 %/°C          |
| Temperature coefficient $\chi$ ( $U_{oc}$ )                                       | -0.38 %/°C          | -0.38 %/°C          | -0.38 %/°C          | -0.38 %/°C          |
| Temperature coefficient $\delta$ ( $I_{MPP}$ )                                    | +0.04 %/°C          | +0.04 %/°C          | +0.04 %/°C          | +0.04 %/°C          |
| Temperature coefficient $\epsilon$ ( $U_{MPP}$ )                                  | -0.38 %/°C          | -0.38 %/°C          | -0.38 %/°C          | -0.38 %/°C          |
| Normal Operating Cell Temperature (NOCT) <sup>2)</sup>                            | 45 °C ( $\pm 3$ °C) | 45 °C ( $\pm 3$ °C) | 45 °C ( $\pm 3$ °C) | 45 °C ( $\pm 3$ °C) |
| Max. permissible system voltage                                                   | 1,000 V             | 1,000 V             | 1,000 V             | 1,000 V             |
| Number of cells                                                                   | 54 (6x9)            | 54 (6x9)            | 54 (6x9)            | 54 (6x9)            |
| Cell size                                                                         | 156 x 156 mm        | 156 x 156 mm        | 156 x 156 mm        | 156 x 156 mm        |

<sup>1)</sup> Intensity of solar radiation 1000 W/m<sup>2</sup>, air mass 1.5, cell temperature 25 °C. Photovoltaic modules show electrical performance degradation over time.

This occurs after commissioning, initially on a decreasing scale, then later in a linear progression.

<sup>2)</sup> Intensity of solar radiation 800 W/m<sup>2</sup>, ambient temperature 20 °C, wind speed 1 m/s

| Key data                                         | PS 05-1                                       | PS 05-2                                       |
|--------------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Outer dimensions (L x W x H)                     | 1495 x 1001 x 42 mm                           | 1495 x 1001 x 42 mm                           |
| Design of aluminium frame                        | Silver anodised (similar to RAL 7035)         | Silver anodised (similar to RAL 7035)         |
| Front glass                                      | Toughened safety glass (TSG)                  | Toughened safety glass (TSG)                  |
| Weight                                           | 18 kg                                         | 18 kg                                         |
| Connection system / cross section of solar cable | Schüco / 4 mm <sup>2</sup> (MC-T4 compatible) | Schüco / 4 mm <sup>2</sup> (MC-T4 compatible) |
| Lengths: Positive cable / negative cable         | 100 cm $\pm$ 5 cm / 100 cm $\pm$ 5 cm         | 100 cm $\pm$ 5 cm / 100 cm $\pm$ 5 cm         |

| Outer dimensions and weights  | PS 05-1   | PS 05-2   |
|-------------------------------|-----------|-----------|
| Weight of packing unit        | 38 kg     | 38 kg     |
| Schüco mounting system        | PV Light  | PV Light  |
| Schüco retaining clips        | Type 43   | Type 43   |
| Art. No. Schüco MPE 200 PS 05 | 259 992   | 259 997   |
| Art. No. Schüco MPE 205 PS 05 | 259 993   | 259 998   |
| Art. No. Schüco MPE 210 PS 05 | 259 994   | 259 999   |
| Art. No. Schüco MPE 215 PS 05 | 259 991   | 259 996   |
| Packing unit                  | 2 modules | 2 modules |

| Outer dimensions and weights          | PS 05-1                     | PS 05-2                     |
|---------------------------------------|-----------------------------|-----------------------------|
| Electrical classification             | Protection class II         | Protection class II         |
| Product standard                      | IEC 61215, EN 61730         | IEC 61215, EN 61730         |
| Tested snow and wind loads            | Up to 7.5 kN/m <sup>2</sup> | Up to 7.5 kN/m <sup>2</sup> |
| Extended product guarantee            | 5 years                     | 5 years                     |
| Output guarantee to 90% $P_{MPP min}$ | 12 years                    | 12 years                    |
| Output guarantee to 80% $P_{MPP min}$ | 25 years                    | 25 years                    |

<sup>3)</sup> The colour of cells may vary between Schüco MPE modules in the PS 05-1 series and the PS 05-2 series.

<sup>4)</sup> In accordance with the Schüco International KG conditions of warranty

Subject to change

| Output                    | PS 05-1                                            | PS 05-2                                            |
|---------------------------|----------------------------------------------------|----------------------------------------------------|
| 200 to 215 $W_p$          | Maximum outputs with a compact module surface area | Maximum outputs with a compact module surface area |
| Positive output tolerance | Rated output is achieved or exceeded               | Rated output is achieved or exceeded               |

| Design and construction          | PS 05-1                                                                | PS 05-2                                                                |
|----------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|
| Optimised labelling              | Individual output data on module and packaging                         | Individual output data on module and packaging                         |
| Innovative retaining clip groove | Streamlined look and optimised interlock                               | Streamlined look and optimised interlock                               |
| Anodised aluminium frame         | Meets highest standards in terms of stability and corrosion resistance | Meets highest standards in terms of stability and corrosion resistance |
| Bypass diodes                    | Reliable prevention of "hot-spot effect"                               | Reliable prevention of "hot-spot effect"                               |

| Manufacturing and reliability                                                               | PS 05-1                                                               | PS 05-2                                                               |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| Manufactured to current quality standards                                                   | Output data tested and results listed for each module                 | Output data tested and results listed for each module                 |
| Extended product warranty and output guarantee                                              | Investment security and reliable system operation                     | Investment security and reliable system operation                     |
| Cross struts and reinforced frame provide increased load-bearing capacity for wind and snow | Can be used in snow load zone III up to approx. 650 m above sea level | Can be used in snow load zone III up to approx. 650 m above sea level |

\* Availability of the performance class is tested on request.

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